

(19) World Intellectual Property Organization  
International Bureau



**(43) International Publication Date**  
**22 March 2001 (22.03.2001)**

**(10) International Publication Number**  
**WO 01/20306 A1**

(51) International Patent Classification<sup>7</sup>: G01N 21/00,  
H01J 3/14

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**(21) International Application Number:** PCT/US00/25155

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(22) International Filing Date:  
14 September 2000 (14.09.2000)

(81) **Designated States (national):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(25) Filing Language: English

(26) Publication Language: English

**(30) Priority Data:**

60/153,926	14 September 1999 (14.09.1999)	US
60/154,099	15 September 1999 (15.09.1999)	US

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(84) **Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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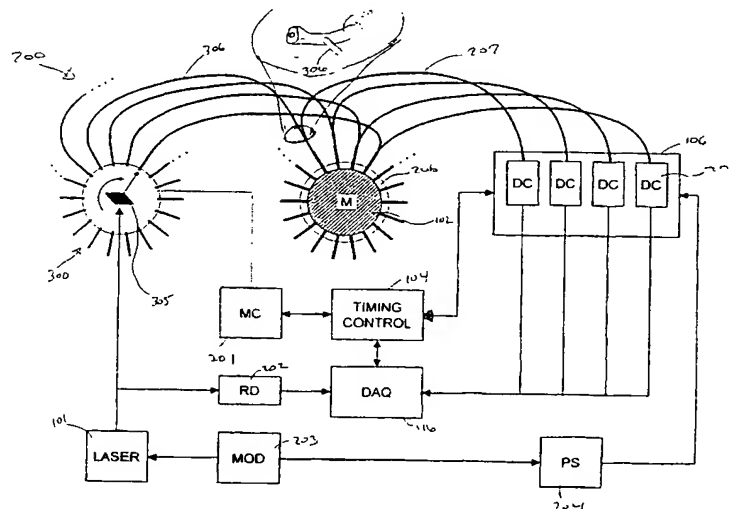
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**Published:**

— *With international search report.*

[Continued on next page]

**(54) Title:** SYSTEM AND METHOD FOR TOMOGRAPHIC IMAGING OF DYNAMIC PROPERTIES OF A SCATTERING MEDIUM



(57) **Abstract:** A system and method for the detection and three dimensional imaging of absorption and scattering properties of a medium such as human tissue is described. According to one embodiment of the invention, the system directs optical energy toward a turbid medium from at least one source and detects optical energy emerging from the turbid medium at a plurality of locations using at least one detector (106). The optical energy emerging from the medium (102) and entering the detector (106) originates from the source (101) is scattered by the medium (102). The system then generates an image representing interior structure of the turbid medium based on the detected optical energy emerging from the medium (102). Generating the image includes a time-series analysis.

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